

Applic. No.: 10/692,637

Amdt. Dated December 30, 2005

Reply to Office action of October 3, 2005

Amendments to the Drawings:

The attached sheet of drawings includes changes to Fig. 1.

More specifically, the projection (9) is now shown below a pair of gills (5).

Attachments: Replacement Sheet

Annotated Sheet Showing Changes

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REMARKS/ARGUMENTS

Reconsideration of the application is requested.

Claims 1-6 remain in the application.

In item 1 on page 2 of the above-identified Office action, the drawings have been objected to because it is not clear whether the gills (5) are in the same plane as the projection (9), with openings that are not horizontally level, or are in a completely different spatial plane. The Examiner has also stated that Fig. 1 seems to show that the projection is not formed geodetically below a gill, while Fig. 2 apparently does.

Fig. 1 has been amended to show that the projection (9) is geodetically below a pair of gills (5).

In item 2 on pages 3-4 of the above-mentioned Office action, claims 1-4 have been rejected as being unpatentable over JP 7-43486 in view of EP 0 557 085 A1 and DeMario et al. (US 4,692,302) under 35 U.S.C. § 103(a).

In item 3 on page 4 of the above-mentioned Office action, claim 5 has been rejected as being unpatentable over JP 7-

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43486 in view of EP 0 557 085 A1 and DeMario et al. and
further in view of Kang et al. (US 6,744,843 B2) under 35
U.S.C. § 103(a).

In item 4 on page 4 of the above-mentioned Office action,
claim 6 has been rejected as being unpatentable over JP 7-
43486 in view of EP 0 557 085 A1 and DeMario et al. and
further in view of JP 2-02980 under 35 U.S.C. § 103(a).

As will be explained below, it is believed that the claims
were patentable over the cited art in their original form and
the claims have, therefore, not been amended to overcome the
references.

Before discussing the prior art in detail, it is believed that
a brief review of the invention as claimed, would be helpful.

Claim 1 calls for, inter alia:

a frame formed with outer webs and inner webs oriented
crossways with respect to one another;

gills formed on an outer side of said outer webs and
projecting to a given extent from said outer side; and

a plurality of projections each formed by a bulge in a
wall of said outer webs and projecting outwardly to a
greater extent than said given extent of said gills.

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JP 7-43486 discloses in Fig. 5 a fuel element with a spacer, the outer web of which has both gills 20 and projections 19 disposed thereunder. However, JP 7-43486 does not disclose that the projections project outwardly to a greater extent than the gills. It is clearly shown in Fig. 5(b) that the projection 19 does not extend beyond the gills 20. To the contrary, the projection extends outwardly over the flat surface of the outer web even less than the gills 20. Therefore, the inventive concept of the invention of the instant application is not disclosed by JP 7-43486.

The inventive concept of the invention of the instant application is also not disclosed by a combination of JP 7-43486 and EP 0 557 085 A1. EP 0 557 085 A1 does not at all concern the problem of protecting a projection through a further protruding projection. On each side web there are only either bigger protrusions or smaller protrusions. The object of EP 0 557 085 A1 is the centered alignment of fuel elements in the channel box. Protrusions with a greater projection disposed at two side webs connected with one another over an edge are pressed by the springs 61-64 disposed at the other two side webs against the corresponding inner walls of the channel box. The protrusions on the side webs on which the springs are also fixed have a smaller projection so that there is a gap between the protrusions and the inner

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walls of the channel box, which gives rise to a radial movement of the fuel elements in the channel box.

With regard to claim 3 of the instant application, Fig. 2 of JP 7-43486 shows normal flow lugs, which are formed on the upper edge of an outer web 11. In contrast, in the configuration of claim 3 of the instant application the deflector lugs are formed on a lower edge (12) of the projections, namely the base thereof and, like the projections, project further from the flat surface of an outer web than the gills disposed thereabove.

It cannot be learned from Figs. 6 and 7 of DeMario et al. that the outer webs have a projection projecting outwards, in which an inner web extends into a supporting section projecting over its side edges. The feature of claim 4 of the instant application is therefore not disclosed by DeMario et al.

Kang et al. show that an intermediate web can extend into the region of a lug. However, Kang et al. do not disclose an inner web, from the lower edge of which a supporting section projects out, which has an inclined edge cooperating with the deflector lug.

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Slots in the outer webs of the spacers, in which inner webs or the like are inserted, are known. However, the cited prior art references do not disclose arranging such a slot in an axially extending recess at a projection, which bulges out outwardly at outer web. The feature of claim 6 of the instant application is therefore not disclosed by the cited prior art references.

It is accordingly believed to be clear that none of the references, whether taken alone or in any combination, either show or suggest the features of claim 1. Claim 1 is, therefore, believed to be patentable over the art. All of the dependent claims are believed to be patentable because they are ultimately dependent on claim 1 as well as for the reasons as discussed above.

In view of the foregoing, reconsideration and allowance of claims 1-6 are solicited.

In the event the Examiner should still find any of the claims to be unpatentable, counsel would appreciate a telephone call so that, if possible, patentable language can be worked out.

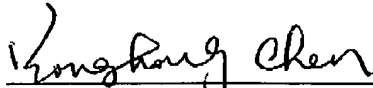
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If an extension of time for this paper is required, petition for extension is herewith made. Please charge any fees which might be due with respect to 37 CFR Sections 1.16 and 1.17 to the Deposit Account of Lerner and Greenberg, P.A., No. 12-1099.

Respectfully submitted,


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FIG. 1

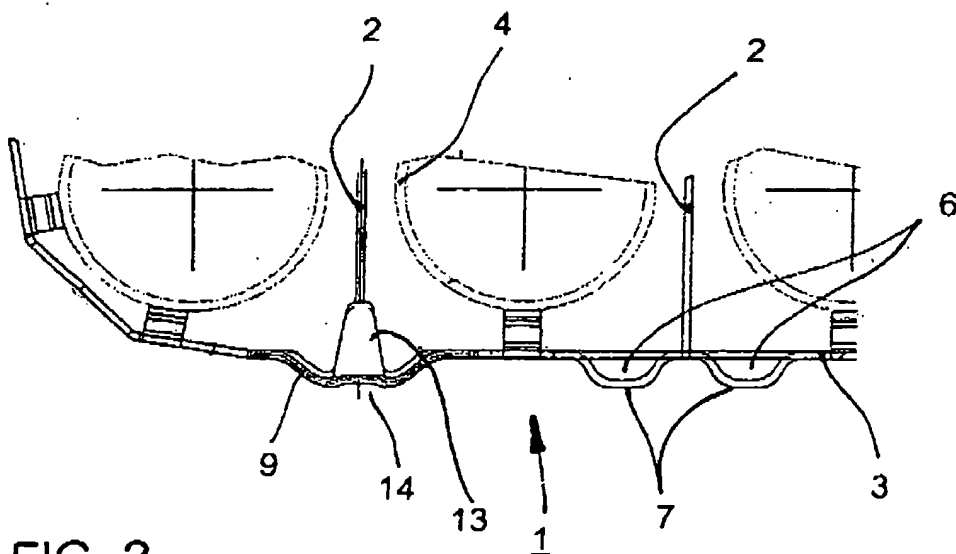
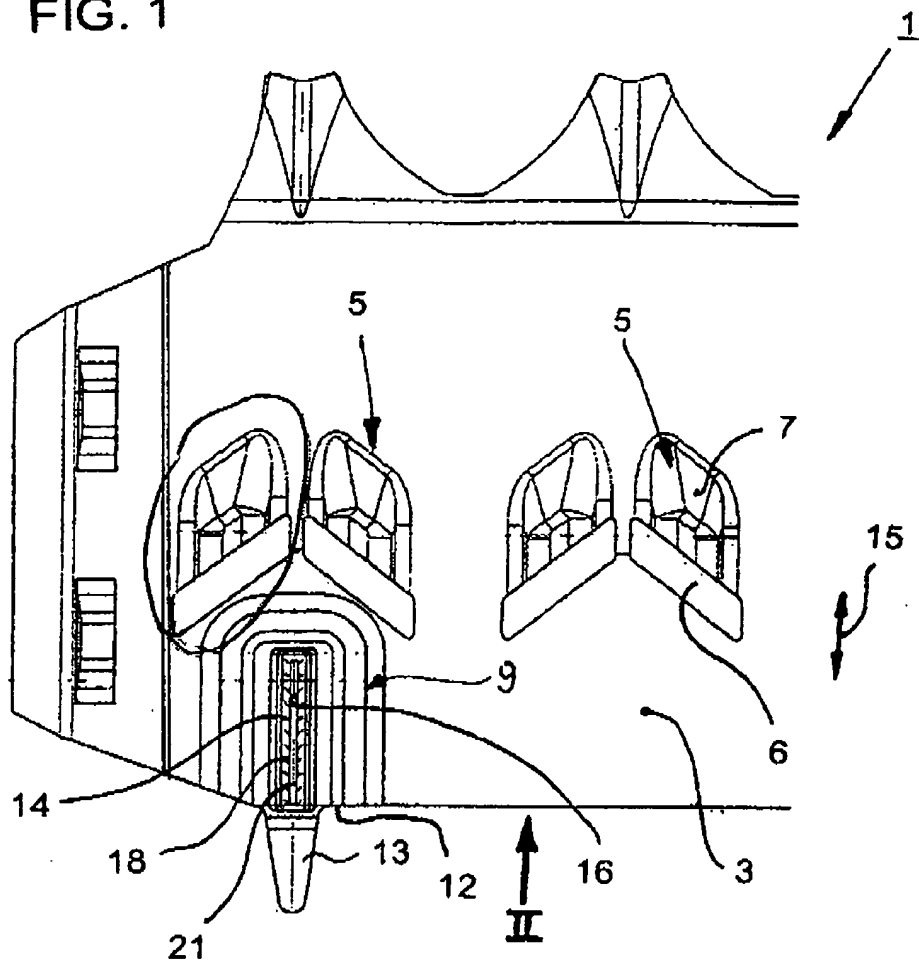


FIG. 2